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"GLASS WALLS" AND THE INSTRUCTIONAL PROGRAM.

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THREE SCHOOLS WERE BUILT WITH EXTENSIVE USE OF GLASS
INTERIOR AND EXTERIOR WALLS. AFTER ABOUT TWO YEARS OF USE,
RESPONSE TO THESE FACILITIES BY TEACHERS, STUDENTS,
ADMINISTRATORS, PARENTS, AND MAINTENANCE PEOPLE WAS
DETERMINED BY QUESTIONNAIRE AND INTERVIEW. THE REPORTED
REACTIONS WERE OVERWHELMINGLY FAVORABLE. (JT)

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"GLASS WALLS" AND THE INSTRUCTIONAL PROGRAM

"SIT down and get busy!" This is a reprimand which was heard often as Johnny stretched his neck to peer outside his schoolroom. But we have advanced in our knowledge of how children learn, and we know now that Johnny's interest in outside happenings is a key to his interest in things academic.

Until recently, architects and educators were reluctant to change from the conventional classroom style—three solid walls plus one with windows, purposely designed to obscure students' views of the world about them. Two years ago, when architects, administrators and teachers of the Port Arthur schools sat down to discuss new schools, the methods and philosophies of teaching became major considerations. As a result, three elementary schools were planned and built which literally bring the "outside in." This was accomplished with the liberal use of glass, rejecting the conventional classroom style of the past.

These three schools, William B. Travis, Sam Houston and Phillis Wheatley, have been in operation for two, one and a half, and one year, respectively. We believe that, by now, whether or not the "open type" classroom helps or hinders the instructional program, can be determined.

EF 000428

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RESEARCH REPORT

7

by PAUL R. HENSARLING*

THE PROBLEM:

Does the extensive use of glass surfaces in school building construction help or hinder the instructional program? To discover the answer to this question, forty-five teachers, working in classrooms which have walls of glass, were asked to express their opinions about them. Parents and children were also interviewed to obtain their reactions to these classrooms.

This study was made in connection with the Port Arthur, Texas, school system which recently built three new elementary buildings. These schools probably contain more glass surfaces than any other schools in the nation. They have been appropriately called "showcase schools." Like any departure from the usual, the design of the buildings has stirred up many questions:

- What are the advantages of such extensive use of glass?
- How do children respond to "outside" activities which are visible from the classroom?
- What are the teachers' personal reactions to the open type classroom?
- Have school patrons accepted the change?
- What about economy? Maintenance? Safety?

This report, we believe, answers these and other related questions.

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Ulric-Meisel



The Phillis Wheatley School is one of three new schools in Port Arthur, Texas, where "window walls" are part of all the classrooms.

The persons best qualified to make this analysis are the teachers, students, parents and principals who use the buildings. The purpose of this report is to summarize the results of a study of the experiences of these people. This should indicate the degree of success of "glass walls" in classrooms in relation to the objectives of the instructional program.

What Are the Teaching Advantages?

Forty-four of forty-five teachers say that glass walls do have educational feasibility. Here are some typical comments:

"Children do not get tired and restless because there is no feeling of confinement."

"Many of our studies in the class can be observed in real life through the glass areas of the room."

"There is a transformation of the classroom from a place of repression into one of freedom."

"When children are given the opportunity to see what is going on around them, they develop new interests which can be channeled into academic study."

"The lighter, brighter surroundings create a good environment for learning. This encourages the children to be better citizens and to take pride in their schools."

"The studies of nature, the seasons of the year, rain, clouds, etc., are enriched because the whole outside is our observatory."

"My students seem to be more natural and relaxed. This type of classroom offers a release from stress and tension."

One student summed up the general feeling of all when he said, "Unlike my old room, I can see outside when I wish. I don't feel 'cooped up.' We use many outside things in our studies. The days seem shorter and all the kids like school now."

Are There Disadvantages?

Yes, teachers listed several. Glass in adjacent wings often causes glare. Some teachers say the "day dreamers" have fertile territory for thoughts "outside." "Sometimes the activities outside do not relate to our study at the moment," one teacher said, "such as other classes working in their gardens, the maintenance worker mowing the grass, and an exciting ball game in PE class. These distractions outside are not of great consequence," she concluded, "and may even be better edu-

The William B. Travis School has now been in operation for two years. Its pupils and teachers had much to report about its walls of glass.



cation than what we are doing at the moment inside."

Another disadvantage mentioned by several teachers is the difficulty in darkening the rooms for visual aids.

Effect on the Learning Environment

Teachers list the following as typical teaching aids:

The rooms are better adapted to the teaching of nature and science.

Classroom activities can be better related to community life.

The beauty of the outdoors—trees, shrubbery, flowers, grass—add to pleasant surroundings.

Shadows, sky, clouds, houses, birds, automobiles, airplanes, furnish subjects and perspective for art work.

Creates a relaxed atmosphere.

More like home; pupils are at ease, unregimented.

Improves appreciation of aesthetic values.

RESEARCH REPORT NUMBER SEVEN

Specific examples of integrating the outdoors with the instructional program include:

"Our unit on 'The Farm' is brought to life by the passing of farm machinery, all kinds of farm animals, and trucks loaded with farm products."

"Our flower bed is just outside the room in full view of the class at all times. The students take great pride in watching their plants grow."

"The unit on 'The Weather' is only supplemented by the books we read, for the whole outdoors is our observatory—temperature, wind, sun, rain, clouds—all in close relation to the seasonal plants, insects and habits of the animals. We anticipate the migration of birds, ducks and geese."

"My class was stimulated to make a complete study of birds when they were attracted by the unusual songs of one outside our window."

Pupil Response to Hall Activities

One of the usual questions asked by our first time visitors is, "How do the children respond to the hall activities which are completely visible through the 'glass wall'?" Teachers say:

"When we first moved into our new building from the old one, the hall activities were distracting. This was temporary. Pupils have learned to concentrate on the work at hand. There may be a casual glance by a few students, but this does not seem to disturb them."

"Since the corridors are in full view from all angles, both students and adults conduct themselves in an orderly manner."

"A little variety afforded by hall activities seems to brighten the day, resulting in less fatigue."

"Now that my students know they can see out, they pay very little attention to activity in the hall. I can remember that in my old room there was more noise from the hall. This was annoying because the students could hear but could not satisfy their curiosity by seeing."

"Our class is always pleased when persons in the hall stop to inspect our ledge displays."

Then, there is the reverse aspect to classrooms with glass walls. In addition to being able to see from the inside out, the teacher and her class are always on display. Parents, other teachers, supervisors, children from other classes—all can observe casually or studiously, unannounced and without invitation. Upon first consideration this situation sounds terrifying!

What Teachers Think

Here is what teachers think about being observed from the hall:

"After the first few weeks of teaching in the

new building, both the students and I were oblivious to being observed by persons in the hall."

"It does not disturb me; probably keeps me on my toes to do a better job at all times."

"I never think about it now."

"It creates a greater pride to know that others are seeing us at work. In the old building I felt isolated—seldom knew whether what I was doing was approved or disapproved. I certainly do not have this problem now."

"I'd rather visitors would observe from the outside. There is less effect upon our natural working habits and routine. I feel no obligation to stop my work to greet visitors."

"Visitors can observe how the children and teacher work together in normal every day activities—no planned or gilt-edged show."

"I think this is a good idea. Of course, there is

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The classrooms of the Sam Houston Elementary School are always open to the outdoors because of their wide-paneled window walls of glass.

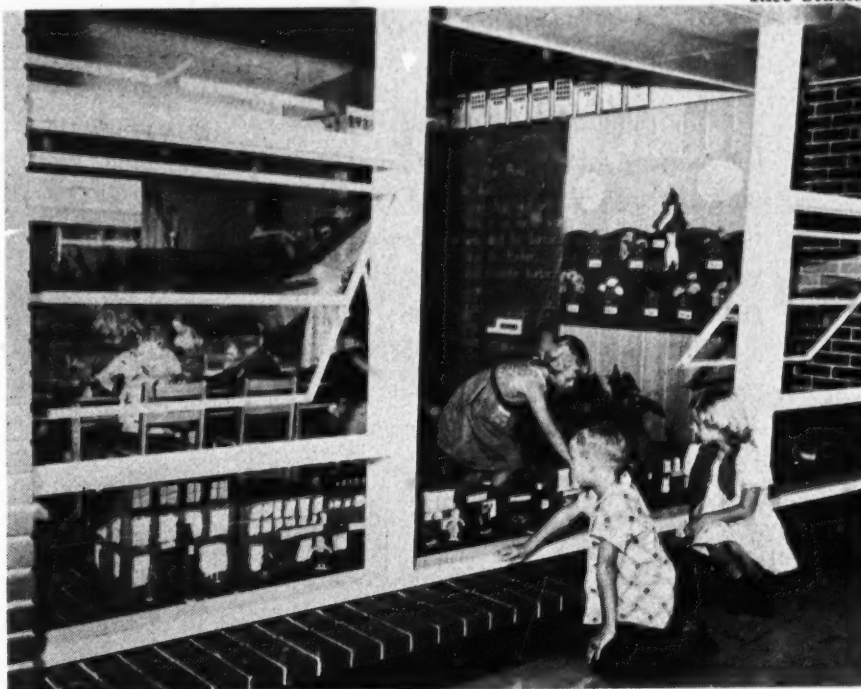
no time for lagging, but a good teacher should do her best work at all times."

How do teachers feel about being observed by other teachers? Their answers to this question proved quite interesting. Forty-two of the forty-five teachers who participated in the survey said they particularly observe the bulletin displays in the rooms of fellow teachers. Thirty-eight said they observe to determine what unit of work is being studied. According to the questionnaire, teachers also observe prepared charts, work on the chalkboards, student activities, student response to teaching, the teacher's manner of handling children, housekeeping (general orderliness), how the teacher is dressed, seating arrangement, window and ledge displays, and living things of interest such as plants, fish, frogs, turtles, snails, etc.

It is obvious from this report that teachers take advantage of the glass wall between the classrooms and

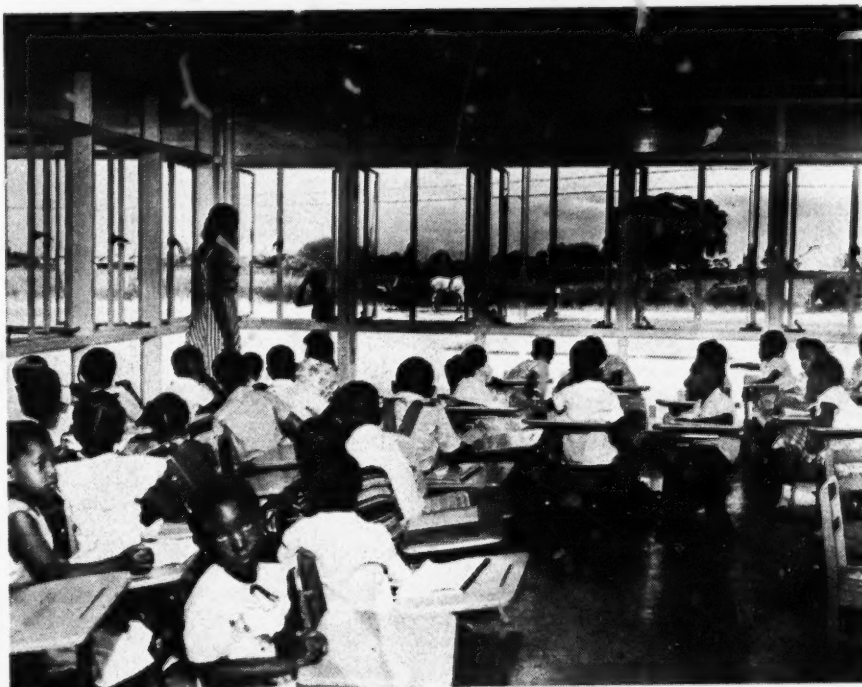
1

Children inspect objects made by other classes and are inspired by them. The freedom of activity of the children does not distract the class within.



2

Class study of "The Farm" is brought to life by observing the farm implements and animals which pass the school. The first grade class is interested in a horse-drawn mower.



J. C. Watkins



3

Large plate glass windows are ideal for studying the weather. This class is studying the formation of the clouds.

RESEARCH REPORT NUMBER SEVEN

Rice Studio



4

Teachers welcome the opportunity to observe other teachers and classes in session. They learn from each other and are stimulated to do their best work at all times.

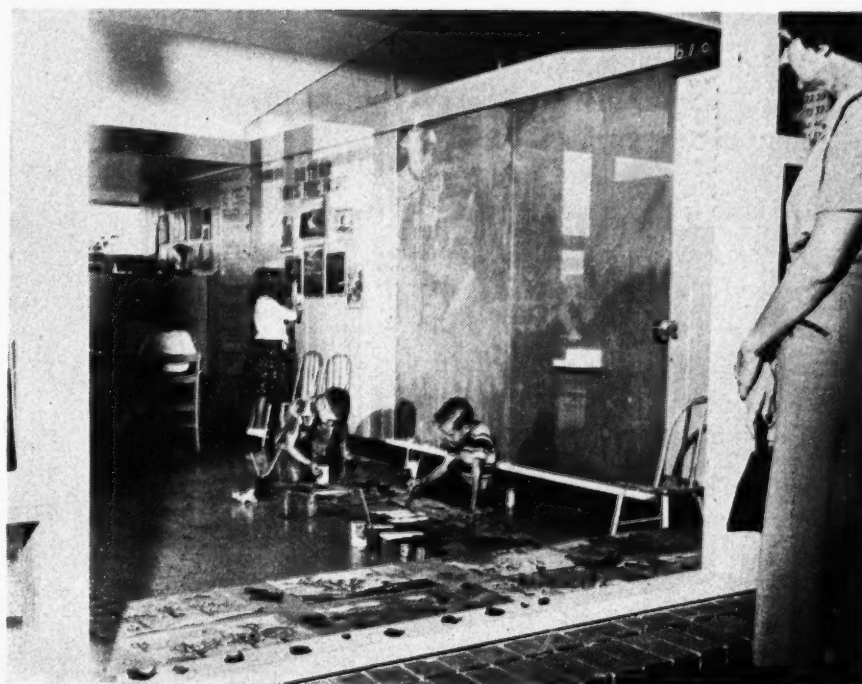


5

Kindergarten children have their private outside play area. Diversified activities take place indoors and out while the teacher supervises the two glass-separated areas as one room.

6

Unnoticed, a parent watches her child at work with others. Children are not self-conscious when a parent observes the class from the window wall.





7

The large window panel is adapted to class study of the universe. Ledge displays and window cutouts form a miniature universe.

corridors to observe their fellow teachers, either casually or purposefully.

Forty of forty-five teachers said they are stimulated by activities they have seen in other teachers' rooms. Also, thirty-six of them said that students likewise have been stimulated.

The Effect on Teacher Morale

It is human nature to strive for the approval of one's peers. A teacher is motivated when fellow teachers compliment the work they have observed in her room. Forty-four teachers in the survey say that other teachers have mentioned to them something they have seen in their rooms. One teacher said, "This creates wholesome conversation in our teachers' lounge." It has been said that the first principle of developing a friend is to express interest in him and his achievements. This principle evidently is being fully practiced in these schools.

Thirty-eight teachers think that there is a direct relationship between the open type classroom and general teacher morale. Seven think that there is some effect, but not much.

Using the Windows and Display Ledges

At least one panel of the wall between the corridor and the classroom is a large plate glass "picture window" similar to those in many modern homes, and they are used in a similar manner. At the base of the window is a ledge about a foot above floor level.

Teachers listed several examples of display subjects: art work, science exhibits, pottery, friezes, booklets, farm scenes, city buildings, circus parades, maps, forts, pioneers and other historical scenes.

What Do the Parents Think?

School officials were not sure how the people of

the community would respond to this radical change in architecture. For years they have been accustomed to good buildings and are proud of their conventional two-story brick structures, built to last a century. It was after lengthy deliberation that the board of education approved this deviation from the usual—three new schools which are rambling, one-story, ranch type and homelike, with over half the wall space being glass.

Now, parents have seen that the new buildings are highly functional and they are our best public relations agents. Of course, they are also impressed by the reduced cost of this type of school. Some typical comments from parents are:

"I never did like to go into my child's classroom because it makes him self-conscious. Now I can observe him at odd times from the corridor, and he never knows I'm near. Believe me, I can better understand his teacher's viewpoint now and I am able to help more."

"I like to see what's going on in other rooms as I walk down the halls. By this means I can compare the work being done in my own child's room."

"Most parents are reluctant or timid about school visitation. This type of school certainly hangs out a welcome sign."

"I see more parents in the building now than ever before. The subject of conversation usually is a mutual pride in their school."

Parents actually are learning more about the curriculum; there is a marked improvement in their understanding. This is noticeable in their discussion in groups, and with teachers and principals. We believe the convenience of observing has affected this improvement.

Even the building style is conducive to good public relations. It has an atmosphere of friendliness,

RESEARCH REPORT NUMBER SEVEN

an invitation to see and learn the inner workings of the school. Uncles, aunts and grandparents of the students feel free to visit. At Christmas time all rooms are appropriately decorated. The week before school closes for the holidays, the Christmas lights are turned on at night for about two hours. Many cars can be seen in line as people of the community enjoy the beautifully lighted and decorated classrooms. It is at times such as these that public relations reach a peak of success.

Maintenance and Replacement

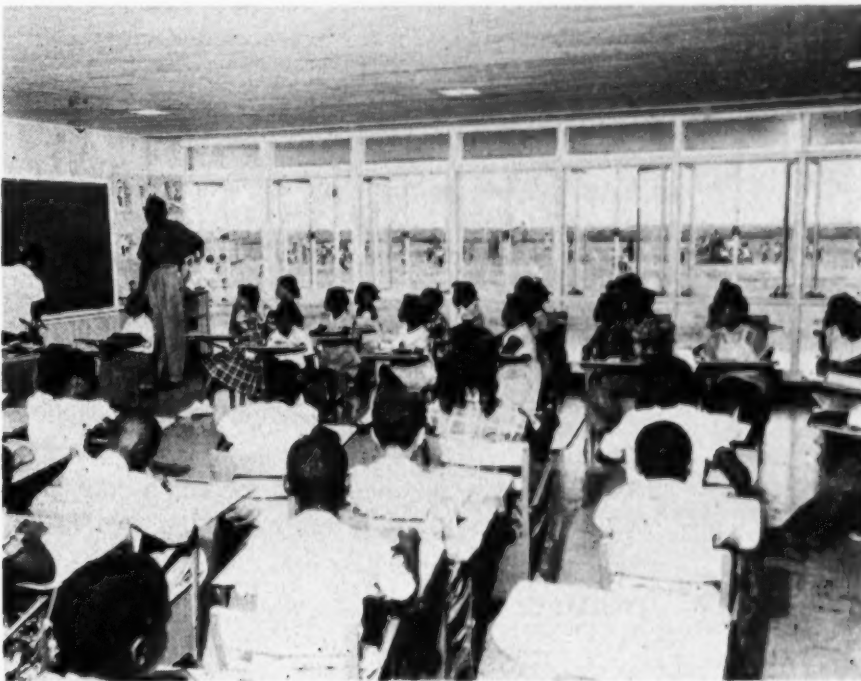
School administrators and businessmen, upon inspection of these new schools, usually ask, "How about maintenance and replacement?" This would seem to be a big item with so much glass. It does require more care, but the cost is no greater. Plain walls get dirty, but the same dust or sticky hand prints are more visible on glass. Once there was a lazy school nurse who wanted her clinic furniture painted brown because

white "shows dirt so badly." Evidence which is visible requires better housekeeping.

Before grass covered the campuses of these buildings, dust accumulated quickly on the outside of the windows. They required washing down often. When it was dry enough to be dusty, the flowers and shrubs beneath the windows needed watering.

Should we include housekeeping in the course of study? Housekeeping is a part of living. When incorporated as a class responsibility and based on pride for the school, it becomes fun and, at the same time, educational. Most of the teachers in these new buildings have inspired their children to feel that classroom housekeeping is their responsibility. What do parents think of this idea? They say there is good transfer resulting in more pride in keeping things orderly at home.

Little fellows in the primary grades cannot clean the high places. Here is where the practice of being



8

The horizon becomes the bounds of the classroom and learning situation. Children's attention is divided between inside and outside activities only casually and normally.

9

Children learn about the community by observation from their classrooms. Kindergarten children interrupt their play to watch the mail delivery at the school.



Rice Studio



10

The glass walls between the classrooms and the corridors are adaptable to tempera paint and for the display of art work.

a good neighbor can be taught. Periodically, larger children in upper grades help the children of the lower grades with their cleaning tasks. Such a good turn can be a choice assignment, if handled properly by the teacher.

Breakage and Replacement

There has been no more breakage than in other buildings. At the end of two years of service only one of the large windows has been replaced. This one was broken by a flying rock from the power mower. There have been a few glass sections broken during the opening and closing of windows. The cost of this item has proved to be nominal, according to the property superintendent.

Are the "Glass" Buildings Safe?

So far, no accidents are attributable to the different design of these buildings. Sometimes a Gulf Coast hurricane strikes this area. There have been none since the three buildings were erected. Some say, "Wait till a hurricane hits!" The architects say, "These buildings will hold up as well or better than the downtown stores with their profit making glass façades." Time will tell. We have good reason to believe that the extensive use of glass will not be a negative factor.

CONCLUSIONS:

Some of the data in this report are based on observation and interview; most of the facts are taken from a written survey in which all teachers in the three new schools participated. Their reports purposely were unsigned or unidentified. Although the reports include some adverse criticism, forty-four of the forty-five teachers are highly pleased with the "show case" type schools. It is expected that the teachers eventually will take full advantage of the functional design of the schools.

Therefore, these things seem evident:

1. The extensive use of glass not only adapts itself to a modern program of education, but actually motivates the educating process.
2. Children who spend their elementary school years in these buildings will have had excellent opportunity to become well rounded citizens.
3. The "open type" classroom expands opportunity for new learning situations as opposed to the distraction of attention.
4. Teachers are inspired and are more alert to do a good job of teaching.
5. Teachers and students learn new ideas from their observation of work being done in other classrooms.
6. Teacher morale is improved by the general atmosphere. There is opportunity for discussion of mutual interests.
7. Parents and other people of the community are pleased with the new buildings. The extensive use of glass affords new opportunities for public relations.
8. The initial cost of the three buildings was below the cost of the conventional type. At the end of two years of operation the cost of maintenance is nominal and no more than the conventional type.
9. The safety of glass has not been put to a severe test. There are no inherent dangers in its routine use.
10. Some changes will be made when additional new buildings are built. This would be true regardless of the type of the building. As to principle, Port Arthur probably will continue to use glass extensively in future buildings. We think it is highly functional.

And in conclusion it should be remembered that more learning takes place when the classroom is bounded only by the horizon, and that Johnny should be able to view it all from where he sits.

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